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PATENT  
DOCKET NO. MTV-076.01  
(20021-7601)

In re Application of:

Lessard, Philip A. *et al.*

Application No: 10/820,451

Filed: April 7, 2004

For: Novel Compositions and Methods for  
Genetic Manipulations of  
Rhodococcus Bacteria

Art Unit: 1636

Examiner: Not Yet Assigned

**Certificate of Mailing**

I hereby certify that this "Information Disclosure Statement" is being deposited with the U. S. Postal Service as First Class Mail with sufficient postage on the date set forth below in an envelope addressed to: Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

April 22, 2005  
Date of Signature and Mail Deposit

By: Shirine Darvish  
Shirine Darvish

Mail Stop Amendment  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**INFORMATION DISCLOSURE STATEMENT**

Sir:

In accordance with the provisions of 37 C.F.R. 1.97 and 1.98, Applicants hereby make of record the patents and publications listed on the accompanying Form PTO-1449, and other information contained herein, for consideration by the Examiner in connection with the examination of the above-identified patent application. Because the filing date of the instant application is April 7, 2004, copies are not provided of the disclosed U.S. Patents and U.S. Patent Application Publications. Copies of the other publications are enclosed.

**REMARKS**

In accordance with the provisions of 37 C.F.R. 1.97, this statement is being filed:

- ☒ (1) within three (3) months of the **filing date** of a national application other than a continued prosecution application under 37 C.F.R. 1.53(d), or within three (3) months of the **date of entry of the national stage** as set forth in 37 C.F.R. 1.491 in an international application, or before the mailing of the **first Office Action** on the merits, or before the mailing of a **first Office Action** after the filing of a request for continued examination under 37 C.F.R. 1.114; or
- ☐ (2) after the period defined in (1) but before the mailing date of a **final action** or a **notice of allowance** under 37 C.F.R. 1.311, and
- ☐ the requisite Statement is below, **OR**
- ☐ the requisite fee under 37 C.F.R. 1.17(p), namely **\$180.00**, is included herein, or
- ☐ (3) after the mailing date of a **final action** or **notice of allowance** but before the payment of the **issue fee**, **AND**
- ☐ the requisite Statement is below, **AND**
- ☐ the requisite petition fee under 37 C.F.R. 1.17(p), namely **\$180.00** is included herein.

It is respectfully requested that each of the patents and publications listed on the attached Form PTO-1449, and other information contained herein, be made of record in this application.

Respectfully submitted,



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Date: April 22, 2005

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| Form PTO-529<br><b>INFORMATION DISCLOSURE CITATION</b><br><b>IN AN APPLICATION</b><br>(Use several sheets if necessary)<br><b>APR 25 2005</b><br>PATENT & TRADEMARK OFFICE | Docket Number (Optional)<br>MTV-076.01 | Application Number<br>10/820,451 |
|  | Applicant<br>Lessard <i>et al.</i>     |                                  |
|  | Filing Date<br>April 7, 2004           | Group Art Unit<br>1636           |

**U.S. PATENT DOCUMENTS**

| INITIAL | DOCUMENT NUMBER | DATE     | NAME                      | CLASS | SUBCLASS | FILING DATE<br>IF APPROPRIATE |
|---------|-----------------|----------|---------------------------|-------|----------|-------------------------------|
|         | AA 4,713,337    | 12/15/87 | Jasin <i>et al.</i>       | 435   | 172.3    | 01/03/85                      |
|         | AB 4,920,054    | 04/24/90 | Kozlowski <i>et al.</i>   | 435   | 252.31   | 07/25/86                      |
|         | AC 5,733,723    | 03/31/98 | van Eekelen <i>et al.</i> | 435   | 6        | 08/24/94                      |
|         | AD 2003/0044807 | 03/06/03 | Bramucci <i>et al.</i>    | 435   | 6        | 12/05/01                      |

**FOREIGN PATENT DOCUMENTS**

|  | DOCUMENT NUMBER | DATE | COUNTRY | CLASS | SUBCLASS | Translation |    |
|--|-----------------|------|---------|-------|----------|-------------|----|
|  |                 |      |         |       |          | YES         | NO |
|  |                 |      |         |       |          |             |    |

**OTHER DOCUMENTS**

(Including Author, Title, Date, Pertinent Pages Etc.)

|          |    |  |
|----------|----|--|
|          | AE | Altschul, S.F. <i>et al.</i> "Gapped BLAST and PSI-BLAST: a new generation of protein database search programs," <i>Nucleic Acids Res.</i> <b>1997</b> , 25(17), 3389-3402.  |
|          | AF | Ankri, S. <i>et al.</i> "Improved electro-transformation of highly DNA-restrictive corynebacteria with DNA extracted from starved Escherichia coli," <i>FEMS Microbiology Letters</i> <b>1996</b> , 140(2-3), 247-251. |
|          | AG | Ballester, S. <i>et al.</i> "Plasmid structural instability associated with pC194 replication functions," <i>J. Bacteriol.</i> <b>1989</b> , 171(5), 2271-2277.  |
|          | AH | Bell, K. S. <i>et al.</i> "The genus Rhodococcus," <i>J. Appl. Microbiol.</i> <b>1998</b> , 85(2), 195-210.  |
|          | AI | Bevan, M. "Binary Agrobacterium vectors for plant transformation," <i>Nucleic Acids Res.</i> <b>1984</b> , 12(22), 8711-8721.  |
|          | AJ | Bron, S. <i>et al.</i> "Restriction and modification in Bacillus subtilis Marburg 168: target sites and effects on plasmid transformation," <i>Mol. Gen. Genet.</i> <b>1988</b> , 211(1), 186-189.                     |
|          | AK | Bruand, C. <i>et al.</i> "A fourth class of theta-replicating plasmids: the pAM beta 1 family from gram-positive bacteria," <i>Proc. Natl. Acad. Sci. USA</i> <b>1993</b> , 90(24), 11668-11672.                       |
|          | AL | Chartrain, M. <i>et al.</i> "Bioconversion of indene to cis-(1S,2R)-indandiol and trans-(1R,2R)-indandiol by Rhodococcus species," <i>J. Ferment. Bioeng.</i> <b>1998</b> , 86(6), 550-558.                            |
|          | AM | Chattoraj, D. K. "Control of plasmid DNA replication by iterons: no longer paradoxical," <i>Mol. Microbiol.</i> <b>2000</b> , 37(3), 467-476.  |
|          | AN | Dabbs, E. R. <i>et al.</i> "Nocardioform Arsenic Resistance Plasmids and Construction of Rhodococcus Cloning Vectors," <i>Plasmid</i> <b>1990</b> , 23(3), 242-247.  |
| EXAMINER |    | DATE CONSIDERED  |

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP § 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to the applicant.

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|---|----|--|--|----------------------------------|--|
| Form PTO-1449   |    | Docket Number (Optional)<br>MTV-076.01   |  | Application Number<br>10/820,451 |  |
| <b>INFORMATION DISCLOSURE CITATION<br/>IN AN APPLICATION</b><br><i>(Use several sheets if necessary)</i>  |    | Applicant<br>Lessard <i>et al.</i>   |  |                                  |  |
|   |    | Filing Date<br>April 7, 2004   |  | Group Art Unit<br>1636           |  |
| <b>OTHER DOCUMENTS (continued)</b> <span style="float: right;"><i>(Including Author, Title, Date, Pertinent Pages Etc.)</i></span>  |    |  |  |                                  |  |
|   | AO | Dabbs, E. R. <i>et al.</i> "Plasmid-borne resistance to arsenate, arsenite, cadmium, and chloramphenicol in a <i>Rhodococcus</i> species," <i>Mol. Gen. Genet.</i> <b>1988</b> , 211(1), 148-154.  |  |                                  |  |
|   | AP | de Lorenzo, V. <i>et al.</i> "Mini-Tn5 transposon derivatives for insertion mutagenesis, promoter probing, and chromosomal insertion of cloned DNA in gram-negative eubacteria," <i>J. Bacteriol.</i> <b>1990</b> , 172(11), 6568-6572.                                      |  |                                  |  |
|   | AQ | de Mot, R. <i>et al.</i> "Structural analysis of the 6 kb cryptic plasmid pFAJ2600 from <i>Rhodococcus erythropolis</i> NI86/21 and construction of <i>Escherichia coli</i> - <i>Rhodococcus</i> shuttle vectors," <i>Microbiology</i> <b>1997</b> , 143(Pt 10), 3137-3147.  |  |                                  |  |
|   | AR | del Solar, G. <i>et al.</i> "Replication and control of circular bacterial plasmids," <i>Microbiol. Mol. Biol. Rev.</i> <b>1998</b> , 62(2), 434-464.  |  |                                  |  |
|   | AS | Desomer, J. <i>et al.</i> "Transformation of <i>Rhodococcus fascians</i> by High-Voltage Electroporation and Development of <i>R. fascians</i> Cloning Vectors," <i>Applied and Environmental Microbiology</i> <b>1990</b> , 56, 2818-2825.                                  |  |                                  |  |
|   | AT | Eisenstadt, E. <i>et al.</i> "Gene Mutation. In: Methods for general and molecular bacteriology." Edited by Gerhardt, P. <i>et al.</i> Washington, D.C.: American Society for Microbiology; <b>1994</b> , 297-316.   |  |                                  |  |
|   | AU | Fellay, R. <i>et al.</i> "Interposon mutagenesis of soil and water bacteria: a family of DNA fragments designed for in vitro insertional mutagenesis of gram-negative bacteria," <i>Gene</i> <b>1987</b> , 52(2-3), 147-154.   |  |                                  |  |
|   | AV | Follettie, M. T. <i>et al.</i> "Gene structure and expression of the <i>Corynebacterium flavum</i> N13 ask-asd operon," <i>Journal of Bacteriology</i> <b>1993</b> , 175(13), 4096-4103.   |  |                                  |  |
|   | AW | Hashimoto, Y. <i>et al.</i> "Development of a host-vector system in a <i>Rhodococcus</i> strain and its use for expression of the cloned nitrile hydratase gene cluster," <i>J. Gen. Microbiol.</i> <b>1992</b> , 138(Pt 5), 1003-1010.                                      |  |                                  |  |
|   | AX | Horii, T. <i>et al.</i> "Replication of ColE2 and ColE3 plasmids: the regions sufficient for autonomous replication," <i>Mol. Gen. Genet.</i> <b>1988</b> , 212, 225-231.  |  |                                  |  |
|   | AY | Ishikawa, J. <i>et al.</i> "FramePlot: a new implementation of the Frame analysis for predicting protein coding regions in bacterial DNA with a high G+C content," <i>FEMS Microbiology Letters</i> <b>1999</b> , 174, 251-253.  |  |                                  |  |
|   | AZ | Janniere, L. <i>et al.</i> "Structurally stable <i>Bacillus subtilis</i> cloning vectors," <i>Gene</i> <b>1990</b> , 87(1), 53-61.   |  |                                  |  |
|   | BA | Janniere, L. <i>et al.</i> "Pasmids. In: <i>Bacillus subtilis</i> and other gram-positive bacteria: biochemistry, physiology, and molecular genetics," Edited by Sonenshein, A. L. <i>et al.</i> Washington, D.C.: American Society for Microbiology; <b>1993</b> , 625-644. |  |                                  |  |
|   | BB | Kulakov L. A. <i>et al.</i> "Cryptic plasmid pKA22 isolated from the naphthalene degrading derivative of <i>Rhodococcus rhodochrous</i> NCIMB13064," <i>Plasmid</i> <b>1997</b> , 38(1), 61-69.  |  |                                  |  |
|   | BC | Larkin, M. J. <i>et al.</i> "Applied aspects of <i>Rhodococcus</i> genetics," <i>Antonie Van Leeuwenhoek</i> <b>1998</b> , 74(1-3), 133-153.   |  |                                  |  |
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| <b>OTHER DOCUMENTS (continued)</b>  |    | <i>(Including Author, Title, Date, Pertinent Pages Etc.)</i>   |                                  |
|   | BD | Leonhardt, H. <i>et al.</i> "Parameters affecting plasmid stability in <i>Bacillus subtilis</i> ," <i>Gene</i> <b>1991</b> , 103(1), 107-111.  |                                  |
|   | BE | Lessard, P. A. <i>et al.</i> "Characterization of IS1676 from <i>Rhodococcus erythropolis</i> SQ1," <i>Appl. Microbiol. Biotechnol.</i> <b>1999</b> , 52(6), 811-819.  |                                  |
|   | BF | Michel, B. <i>et al.</i> "Illegitimate recombination occurs between the replication origin of the plasmid pC194 and a progressing replication fork," <i>The EMBO J.</i> <b>1986</b> , 5(13), 3691-3696.                                      |                                  |
|   | BG | Moore, M. "Complete nucleotide sequence of a native plasmid from <i>Brevibacterium linens</i> ," <i>Plasmid</i> <b>2003</b> , 49(2), 160-168.  |                                  |
|   | BH | Muth, G. <i>et al.</i> "A vector system with temperature-sensitive replication for gene disruption and mutational cloning in streptomycetes," <i>Mol. Gen. Genet.</i> <b>1989</b> , 219, 341-348.  |                                  |
|   | BI | Nesvera, J. <i>et al.</i> "Plasmid pGA1 from <i>Corynebacterium glutamicum</i> codes for a gene product that positively influences plasmid copy number," <i>J. Bacteriol.</i> <b>1997</b> , 179(5), 1525-1532.                               |                                  |
|   | BJ | O'Brien, X. M. <i>et al.</i> "Engineering an indene bioconversion process for the production of cis-aminoindanol: a model system for the production of chiral synthons," <i>Appl. Microbiol. Biotechnol.</i> <b>2002</b> , 59(4-5), 389-399. |                                  |
|   | BK | Pansegrau, W. <i>et al.</i> "Enzymology of DNA transfer by conjugative mechanisms," <i>Prog. Nucleic Acid Res. Mol. Biol.</i> <b>1996</b> , 54, 197-251.   |                                  |
|   | BL | Quan, S. <i>et al.</i> "Nocardioform arsenic resistance plasmid characterization and improved <i>Rhodococcus</i> cloning vectors," <i>Plasmid</i> <b>1993</b> , 29(1), 74-79.  |                                  |
|   | BM | Rauzier, J. <i>et al.</i> "Complete nucleotide sequence of pAL5000, a plasmid from <i>Mycobacterium fortuitum</i> ," <i>Gene</i> <b>1988</b> , 71(2), 315-321.   |                                  |
|   | BN | Shao, Z. <i>et al.</i> "An improved <i>Escherichia coli</i> - <i>Rhodococcus</i> shuttle vector and plasmid transformation in <i>Rhodococcus</i> spp. using electroporation," <i>Lett. Appl. Microbiol.</i> <b>1995</b> , 21(4), 261-266.    |                                  |
|   | BO | Simon, R. "A broad host range mobilization system for in vivo genetic engineering: transposon mutagenesis in gram negative bacteria," <i>Bio/Technology</i> <b>1983</b> , 1, 784-791.  |                                  |
|   | BP | Stolt, P. <i>et al.</i> "Functional definition of regions necessary for replication and incompatibility in the <i>Mycobacterium fortuitum</i> plasmid pAL5000," <i>Microbiology</i> <b>1996</b> , 142(10), 2795-2802.                        |                                  |
|   | BQ | Stolt, P. <i>et al.</i> "Mutational analysis of the regulatory region of the <i>Mycobacterium</i> plasmid pAL5000," <i>Nucleic Acids Res.</i> <b>1997</b> , 25(19), 3840-3846.   |                                  |
|   | BR | Stolt, P. <i>et al.</i> "Protein-DNA interactions in the ori region of the <i>Mycobacterium fortuitum</i> plasmid pAL5000," <i>J. Bacteriol.</i> <b>1996</b> , 178(23), 6693-6700.   |                                  |
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|   | BS | Thomas, C.M. "Paradigms of plasmid organization," <i>Mol. Microbiol.</i> <b>2000</b> , 37(3), 485-491.   |                                  |
|   | BT | Treadway, S. L. <i>et al.</i> "Isolation and characterization of indene bioconversion genes from Rhodococcus strain I24," <i>Appl. Microbiol. Biotechnol.</i> <b>1999</b> , 51(6), 786-793.  |                                  |
|   | BU | Voeykova, T. <i>et al.</i> "Conjugative transfer of plasmid pTO1 from Escherichia coli to Rhodococcus spp," <i>Biotechnology Letters</i> <b>1994</b> , 16(6), 555-560.   |                                  |
|   | BV | Vogt Singer, M. E. <i>et al.</i> "Construction of an Escherichia coli-Rhodococcus shuttle vector and plasmid transformation in Rhodococcus spp," <i>J. Bacteriol.</i> <b>1988</b> , 170(2), 638-645.   |                                  |
|   | BW | Zhang, Y. <i>et al.</i> "Molecular analysis and characterization of a broad-host-range plasmid, pEP2." <i>J. Bacteriol.</i> <b>1994</b> , 176(18), 5718-5728.  |                                  |
|   | BX | Zheng, H. <i>et al.</i> "Development of a Rhodococcus equi-Escherichia coli plasmid shuttle vector," <i>Plasmid</i> <b>1997</b> , 38(3), 180-187.  |                                  |
|   | BY | Denis-Larose, C. <i>et al.</i> "Characterization of the Basic Replicon of Rhodococcus Plasmid pSOX and Development of a Rhodococcus-Escherichia coli Shuttle Vector," <i>Applied and Environmental Microbiology</i> <b>1998</b> , 64(11), 4363-4367. |                                  |
|   | BZ | Yu, H. "Identification of Regions Necessary for Replication in the Rhodococcus Plasmid pB264," <i>b(u)g journal</i> <b>1999</b> , 2, 257-263.  |                                  |
|   | CA | Tomasieque, H. "Gene Disruption and Gene Replacement in Rhodococcus sp. 124 via Single Stranded DNA Transoformation of Integration Constructs," <i>b(u)g journal</i> <b>2001</b> , 4, 231-241.   |                                  |
|   | CB | Cantor, D. "Identification and Localization of the oriT Sequence on the Rhodococcus sp. B264-1 Plasmid pB264," <i>b(u)g journal</i> <b>2002</b> , 5, 1-6.  |                                  |
|   | CC | Aggarwal, R. "Investigation of Plasmid Transfer Functions (oriT) in pB264 Involved in Conjugal Transfer Between Rhodococcus sp. B264-1 and I24," <i>b(u)g journal</i> <b>2003</b> , 6, 1-10.   |                                  |
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